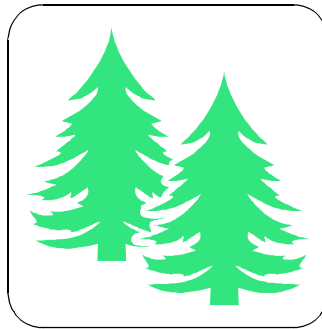


SECTION EIGHT:

Environmental Conditions



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Much of the information in this section has been obtained from Catawba County's Comprehensive Plan, VisionQuest 2010. Most of the subjects discussed are static and deal with physical features of the County and therefore should not change. In addition, other natural resources such as historic sites and open space are discussed as physical and cultural amenities that have an effect on the population of the County.

Topography

The topography of Catawba County can be described as gently rolling foothills with some steep grades. Some of the steeper areas lie along the major waterways that drain the County, like the Catawba River, the Henry Fork, and the Jacob's Fork. The majority of Catawba County is gradually sloping and is not adverse to development. Any slope greater than eight percent is considered detrimental to most commercial, industrial, and high density residential development. However, most of the County has a slope of less than eight percent. In those areas in which the slope is greater than eight percent, proper construction site preparation can help alleviate the problem.

Water Supply Watersheds

Water supply watersheds are districts designated by the NC Department of Environmental Management where it has been determined that stormwater runoff drains into a public water supply. These areas have been designated to protect the quality of these water supplies through certain development restrictions. Approximately 60% of Catawba County lies within three State designated watersheds: WS-II, WS-III, and WS-IV.

Each watershed is broken down into a critical area (CA) and a protected area (PA). The critical area extends one-half mile from the normal pool elevation of a water supply, or one-half mile upstream from a water intake located directly in a stream or river. The protected area stretches five miles from the normal pool elevation of a water supply, or ten miles upstream from a water intake located directly in a stream or river.

Built-upon area for multi-family and non-residential development is regulated according to watershed classification where the property is located. The goal of these regulations is to limit the amount of impervious surface in the watershed. Therefore, in these districts stormwater is intended to drain naturally and be absorbed into the soil, rather than draining directly into the water supply. There are some exemptions to the State's required density

limits. For instance in the WS-IV, development projects that do not require a sedimentation and erosion control plan are exempt from the built-upon regulations. This exempts smaller projects which do not have a significant water quality impact. Additional stormwater management techniques, such as wet detention ponds, may be used to control rainfall runoff from impervious areas, therefore allowing the developer to utilize more land area for development purposes.

Floodplains

The Federal Emergency Management Agency (FEMA) has identified those areas along the County's streams that are prone to inundation during a 100-year and 500-year flood event. These floodplain areas, in addition to base flood elevations measured from mean sea level, are detailed on the County's Flood Insurance Rate Maps (FIRM's).

Development of property in the floodplains is possible if certain design standards are met. These principles have been developed to minimize property damage from flooding. All development within a floodplain must be constructed so that all livable floors and mechanical components of a building are a minimum of two feet above the base flood elevation for the adjacent waterway. Furthermore, structural foundations, if located in a floodplain must be designed so as not to impede flood waters.

Recent development trends in stream basins have increased runoff and flood hazard potential in the County by increasing impervious area. Local land use regulations can help promote the preservation of floodplains by recommending that these areas be reserved as open space and recreation tracts, or by utilizing low-density zoning districts, thereby minimizing potential flood losses.

Soils

Soil delineation is an important factor in determining development suitability for different types of land use. Slope, wetness, depth, and permeability are all used to assess soil appropriateness. Septic tank location and operation, industrial development, road building, and agriculture are all dependent upon soil suitability.

The Catawba County, NC Soil Survey, prepared by the US Department of Agriculture, details the many soil types and makes general comments on the suitability of these soil types for various uses. Catawba County soils are typically low in natural fertility, and generally require lime and fertilizer to yield substantial crop production. However, soil types in the majority of the County are suitable for general agricultural uses. Most of this land is found in the central and southern portions of the County, and in many cases coincides with streams

and their adjacent floodplains.

There are widespread soil limitations for use of septic systems with drain fields including poor percolation rates and the location of significant rock deposits including the areas around Anderson Mountain and Baker's Mountain. In general, septic system failures have occurred much more frequently in the eastern part of the County than elsewhere. According to the Catawba County Environmental Health Department, there are some significant areas where larger lot sizes (at least 30,000 square feet) are needed to facilitate residential growth without access to public sewer service (some of these areas already have public sewer or will have it in a relatively short time-frame):

- ◆ All properties on Lake Norman and Lake Hickory.
- ◆ Selected properties in and around the Oxford Dam area.
- ◆ Selected properties close to but not in the municipalities of Hickory, Long View, Maiden, Newton and Conover: especially in the older subdivisions to the south of Hickory (Mtn. View) and northeast of Hickory (Springs Road area).
- ◆ The Balls Creek community
- ◆ Any higher density developments (two units per acre or more) in excess of twenty years old.
- ◆ The lower Sherrills Ford area.

While there are significant problem areas in the County with failing septic systems, most of the County's soils are suitable for a central sewer system installation and operation.

There are moderate limitations to non-residential and non-agricultural development in the County. Rock concentrations, with the potential for shrinking and swelling contribute to these constraints. These problems primarily occur in the western section of the County. Constructing roads and streets using subsoil as the base is also hampered by large rock concentrations and the lack of capacity for supporting heavy traffic.

Wetlands

Wetlands are environmentally sensitive areas typically found in the low-lying floodplains adjacent to streams and near stream headwaters where sub-surface waters are released from the water table. These areas, characterized by frequently wet soils, act as flood water storage areas, provide natural filtering of pollutants from surface water, and serve as a habitat for many aquatic life forms.

According to the Catawba County Soil Survey prepared by the US Department of

Agriculture, four soil types within the County are favorable for wetland formation. Two of these soil types, the Wehadkee Series and the Worsham Series categorized as hydric and are indicative of wetland conditions. The two remaining series, the Buncombe and the Chewacla, are hydric inclusive and may represent wetland conditions. The US Army Corps of Engineers directly oversees wetland identification and analysis. Permits must be secured from the Corps for any development activities which disturb these environmentally sensitive areas.

Cultural & Historic Sites

Cultural and historic preservation is an issue of architectural and aesthetic concern for the residents of the County. The Catawba County Historical Society operates several significant historic sites which are open to the public, including the Bunker Hill Covered Bridge and Murrays Mill. Other historic sites include Old St. Paul's Church, the oldest existing church in North Carolina west of the Catawba River, and historic houses in various municipalities around the County. The County also offers the Museum of History, located in the 1924 downtown Courthouse in Newton. The museum displays tools, early household furnishings, military uniforms, Civil War artifacts, local Catawba Valley pottery, and a 1930's stock car, among other objects.

There are approximately 600 sites in the County that are potential candidates for inclusion on the National Register of Historic Places. The Catawba County Historical Association provides information and assistance in applying for inclusion on the National Register to owners of eligible historic sites.

The 'Machinery Act' of the North Carolina General Statutes allows owners of historic properties to received tax exemptions and deferrals. Owners can defer 50% of their property taxes for five years if they are designated as a "certified historic property" by a Historic Properties Commission. However, Catawba County does not currently have a commission of this kind.

Open Space

Open space can be defined as areas which are left in a natural state or that are specifically set apart and protected from development activities. These areas may be developed in the form of parks, greenways, conservation trusts, or other private means such as deed restrictions or land dedications. These environs are used to create a sense of separation, provide a natural habitat for local flora and fauna, promote adequate drainage for water supply watersheds, and act as public recreation areas.

Natural resources are integral to and may be protected by the establishment of public and private open space areas. Wetlands, floodplains, residual watershed property, and recreation areas/parks can all be utilized as open space. Through development ordinances the County can require the dedication of areas of this type for public use or natural conservation. The public game lands located in the eastern section of the County are good examples of public open space that serves recreational, conservation, and natural habitat needs. These areas are used for hunting, fishing, hiking, and other recreational uses, as well as for providing a natural habitat for the indigenous species of the area.

The County currently has two large tracts in its ownership. One of these tracts is currently in the development stages as a regional park. ‘Riverbend Park’ will create a large amount of open space along the Catawba River and will be a 475 acre natural area with passive recreation facilities such as a canoe access, bike and horseback trails, walking trails, etc. The second tract is located on Baker’s Mountain on the western side of the County. This tract could be utilized as a natural type park also, and therefore fill a need for public open space on the other side of the County. The County was recently turned down for a State grant to develop this property; however, it does plan to apply again.

Farms and Farmland

As described in the Population and Demographics section of this Report, farm employment is currently less than one (1) percent of the total County employment. In fact, Catawba County ranks 91st in the State in such employment. A trend of continual decline in farm employment is expected through 2020. From 1969 to 1992 the number of farms has decreased by 50% and the total cropland acreage has decreased 60%. The average age of the Catawba County farmer is 59.

Table 8.1
Farmland Data, Catawba County; 1969 and 1992.

Year	Number of Farms	Average Acreage	Cropland Acreage	Pasture Acreage	Woodland Acres
1969	1,012	97	51,032	16,151	28,626
1992	507	124	20,385	unavailable	unavailable

Source: 1969 and 1992 US Dept. Of Commerce; Census of Agriculture.

Despite the overall low percentage of farm-related employment and the decrease in the number of farms and farm acreage, there remains a healthy, productive farming community in Catawba County. In fact, in 1995, Catawba County ranked in the top one-third of all Counties in the State in production of products such as barley, hay and cattle. Total cash

receipts from all farm related activities in the County ranked near the middle (63rd) of all counties statewide.

Table 8.2
1995 Crop and Livestock Production;
Catawba County; 1995.

Crop	Rank in State	Livestock	Rank in State
Barley	10	Cattle	19
Corn for Silage	20	Beef Cows	19
Hay	27	Milk Cows	20
Sorghum	33	Broilers	43

Source: NC Dept. Of Agriculture, 1995.

Surprisingly, even with the decrease in farming activities, there are 936 parcels of property in the County consisting of farms that qualify for participation in the present-use tax program. This program allows the County Tax Assessor to base the value of an active farm on its current use and not its market value (which would otherwise take into consideration its development potential). These 936 parcels represent 45,000 acres (more than 17% of the entire County).

Woodlands and Tree Cover

When the area which is now Catawba County was first settled in the mid 1700s, virtually all of its land was forested. Most of the forests were and are still made up of hardwoods such as oak and hickory with a significant distribution of pines. Like other Piedmont counties, the level of full forestation began to be reduced through human habitation and land development. During the 1950's, 60's and 70's, most of the forestland was owned by farmers with a slow shift toward private, non-farmer ownership. Historically, most of the forestland has been owned by private individuals and/or farmers. In fact, in 1990, for the first time, forests owned by state, federal and/or local governments broke the one percent mark.

The N.C. Division of Forest Resources in Raleigh has conducted a broad, statewide survey of forests and forest-related matters approximately every 10 years (1955, 1964, 1975, 1984 and 1990). In 1990 it has become evident that the forestland ownership has shifted dramatically away from farm-ownership (51,427 acres in 1955 and 22,633 acres in 1990). In 1990, private individuals owned 62.8% of all timberland; corporations owned 15.7%, farmers owned 19.6%. The amount of timberland in Catawba County that is owned by the

forest industry is very low (less than 1%). Virtually all lumber used by the local furniture industry is imported from outside of North Carolina.

Generally, Catawba County was fortunate to experience an increase in forestation from 1984 (40%) to 1990 (46%). The current percent of all land that is forested is not known and will likely not be known until a new statewide study is completed. As shown on Table 8.3, the County has seen a relatively steady percent of land remain forested (in the 40-50% range) since 1964. In fact, the lowest percent was recorded in 1955. Catawba County currently has no policy that restricts the removal of forested areas, nor does it provide incentives to prevent de-forestation and unnecessary clear cutting.

Table 8.3
Forest Resource Data, Catawba County; 1955-1990.

Year	Timberland	Non-Forest	Percent Forested
1955	99,400	158,900	38%
1964	123,000	130,900	48%
1975	115,461	141,370	45%
1984	102,277	150,945	40%
1990	115,396	137,826	46%

Source: N.C. Division of Forest Resources.

Much like the farming industry's decline over the past several decades, timber harvesting and production in Catawba County has begun to decline significantly over the past decade. The estimated value of harvested timber in 1979 was \$2.33 million. This figure rose steadily in the 1980s to a high of \$3.28 million in 1990. Since then, the value of harvested timber has declined to \$1.86 million in 1995. Some of these trends may be natural fluctuations in the industry but are more likely indications of a shrinking industry and an urbanizing County.

It is estimated by the US Department of Agriculture that approximately 1,300 acres of private forestland was harvested in 1997.

VisionQuest 2010 Applicability

The County's Comprehensive Plan, VisionQuest 2010 describes the County's Resource Conservation Goal as follows: *"To identify, conserve, protect and enhance significant natural, historic and cultural resources, managing these resources to assure the*

highest environmental quality possible.” Many of the environmental issues have already been addressed in VisionQuest and little modification has been necessary. VisionQuest lists twelve policies and ten recommended actions related to environmental and resource conservation. These have been addressed as part of the Growth Strategies Report.